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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No. : 10/777470 Confirmation No.: 2234  
Applicant : Lee  
Filing Date : 02/11/2004  
Title : Microfluidic Devices For Controlled Viscous Shearing And Formation  
Of Amphiphilic Vesicles  
Group Art Unit : 1641  
Examiner : Unknown  
Docket No. : 703538.4033  
Customer No. : 34313

Commissioner for Patents  
PO Box 1450  
Mail Stop Patent Application  
Alexandria, VA 22313-1450

### INFORMATION DISCLOSURE STATEMENT

Sir:

In accordance with 37 CFR §§ 1.97 and 1.98, the items identified in this Information Disclosure Statement ("IDS") are brought to the attention of the Office. The items are listed on the attached form PTO-1449 and copies are enclosed for the convenience of the Examiner.

The items identified in this IDS may or may not be "material" pursuant to 37 CFR § 1.56. The submission thereof by Applicant is not to be construed as an admission that any such patent, publication or other information referred to therein is material or considered to be material (37 CFR § 1.97(h)), or even qualifies as "prior art" under 35 USC § 102 with respect to this invention unless specifically designated by Applicant as such.

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#### CERTIFICATE OF MAILING (37 CFR §1.8)

I hereby certify, pursuant to 37 CFR §1.8, that I have reasonable basis to expect that that this paper or fee (along with any referred to as being attached or enclosed) would be mailed or transmitted on or before the date indicated with the United States Postal Service with sufficient postage as first class mail on the date shown below in an envelope addressed to Mail Stop Patent Application, Commissioner for Patents, PO Box 1450, Alexandria, VA 22313-1450.

Dated: September 8, 2004

  
Mary L. Smith

Applicant : Lee  
Appl. No. : 10/777470  
Examiner : Unknown  
Docket No. : 703538.4033

**INFORMATION DISCLOSURE STATEMENT FILING PROVISION:**

☒ This IDS is believed to be timely in that it is being submitted under 37 CFR § 1.97(b), that is (1) within three months of the filing date of the application, which is not a continued prosecution application filed under § 1.53(d); or (2) within three months of entry of the national stage as set forth in 37 CFR § 1.491; or (3) before the mailing of a first Office action on the merits; or (4) before the mailing of a first Office action after filing a request for continued examination under § 1.114. Thus, no fee is required.

☐ However, if the undersigned is in error in this regard, Applicant respectfully requests that the Office consider this IDS as filed under 37 CFR § 1.97(c), if applicable, and charge the fee due under 37 CFR § 1.17(p) to the deposit account referenced below.

☒ However, if the undersigned is in error in this regard, Applicant respectfully requests that the Office consider this IDS as filed under 37 CFR § 1.97(c), if applicable, and a statement under 37 CFR § 1.97(e) is included below, thus no fee is required.

☐ This IDS is being submitted under 37 CFR § 1.97(c), that is after mailing of a first Office action on the merits, but before a Final Action under 37 CFR § 1.113 or a Notice of Allowance under 37 CFR § 1.311.

☐ The fee due under 37 CFR § 1.17(p) is submitted herewith.

☐ A statement under 37 CFR § 1.97(e) is included below, thus no fee is required. In the event that this IDS is not received before a Final Action or a Notice of Allowance, then Applicant respectfully requests that the Office consider the filing of these papers to be submitted under 37 CFR § 1.97(d) and charge the fee due under 37 CFR § 1.17(p) to the deposit account below.

☐ This IDS is being submitted under 37 CFR § 1.97(d), that is after a Final Action under 37 CFR § 1.113 or a Notice of Allowance under 37 CFR § 1.311, but before payment of the issue fee. A statement under 37 CFR § 1.97(e) is included below. The fee due under 37 CFR § 1.17(p) is submitted herewith.

Applicant : Lee  
Appl. No. : 10/777470  
Examiner : Unknown  
Docket No. : 703538.4033

**STATEMENT UNDER 37 CFR § 1.97(e):**

- ☐ Each item contained in this IDS was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this IDS.
- ☐ No item contained in this IDS was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing this statement after making reasonable inquiry, no item of information contained in this IDS was known to any individual designated in 37 CFR § 1.56(c) more than three months prior to the filing of this IDS.

**PAYMENT AND/OR AUTHORIZATION TO CHARGE FEES:**

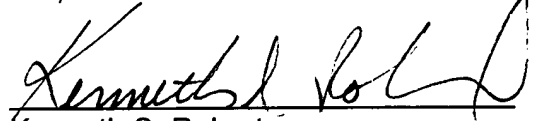
- ☐ A check in the amount of \_\_\_\_\_ is enclosed for the above fee(s).
- ☐ Please charge \_\_\_\_\_ to Deposit Account No. **15-0665** for the above fee(s).
- ☒ The Commissioner is authorized to charge any fees required by the filing of these papers, and to credit any overpayment to Orrick, Herrington & Sutcliffe's Deposit Account No. **15-0665**.

Respectfully submitted,

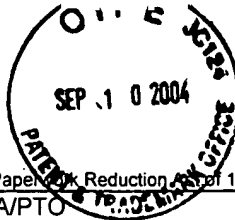
ORRICK, HERRINGTON & SUTCLIFFE LLP

Dated: September 2, 2004

By:

  
Kenneth S. Roberts  
Reg. No. 38283

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STATEMENT BY APPLICANT**

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|-------|---|----|---|------------------------|-------------|
| Sheet | 1 | of | 2 | Attorney Docket Number | 703538.4033 |
|-------|---|----|---|------------------------|-------------|

**U.S. PATENT DOCUMENTS**

| Examiner<br>Initials | Cite No. <sup>1</sup> | U.S. Patent Document                     | Publication Date<br>MM-DD-YYYY | Name of Patentee or<br>Applicant of Cited Document |
|----------------------|-----------------------|--|--------------------------------|--|
|                      |                       | Number-Kind Code <sup>2</sup> (if known) |                                |  |
|                      | AA                    | US 2002/0058332 A1                       | 5/16/02                        | Quake et al.                                       |
|                      | AB                    |  |                                |  |
|                      | AC                    |  |                                |  |
|                      | AD                    |  |                                |  |
|                      | AE                    |  |                                |  |
|                      | AF                    |  |                                |  |
|                      | AG                    |  |                                |  |
|                      | AH                    |  |                                |  |

**FOREIGN PATENT DOCUMENTS**

| Examiner<br>Initials | Cite No. <sup>1</sup> | Foreign Patent Document  | Publication Date<br>MM-DD-YYYY | Name of Patentee or<br>Applicant of Cited Document | T <sup>6</sup> |
|----------------------|-----------------------|--|--------------------------------|--|----------------|
|                      |                       | Country <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known) |                                |  |                |
|                      | AA                    | DE 198 14 267 A1   | 04/01/1999                     | GE Bayer Silicones GmbH & Co.                      | N              |
|                      | AB                    | WO 02/068104 A1  | 09/06/2002                     | Japan Science and Technology Corporation           | N              |
|                      | AC                    | WO 2004/002627 A2  | 01/08/2004                     | President and Fellows of Harvard College           |                |
|                      | AD                    | EP 1 358 931 A2  | 11/05/2003                     | Tosoh Corporation                                  |                |
|                      | AE                    | EP 1 362 634 A1  | 11/19/2003                     | Japan Sciences and Technology Corporation          |                |

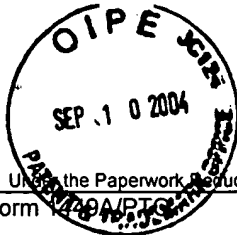
**OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS**

| Examiner<br>Initials <sup>7</sup> | Cite No. <sup>1</sup> | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T <sup>2</sup> |
|-----------------------------------|-----------------------|---|----------------|
|                                   | BA                    | HAVERKAMP et al., "The Potential of Micromixers for Contracting of Disperse Liquid Phases" Fresenius Journal of Analytical Chemistry, Springer, Berlin Germany, Vol. 364, 1999, pages 617-624   |                |
|                                   | BB                    | NISISAKO et al., "Formation of droplets using branch channels in a microfluidic circuit" SICE Osaka, Japan, 2002, pages 1262-1264   |                |

|                       |                  |                    |  |
|-----------------------|------------------|--------------------|--|
| Examiner<br>Signature | DOCSOC1:154041.1 | Date<br>Considered |  |
|-----------------------|------------------|--------------------|--|

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**Complete if Known**

|       |   |    |   |                        |             |
|-------|---|----|---|------------------------|-------------|
| Sheet | 2 | of | 2 | Application Number     | 10/777470   |
|       |   |    |   | Filing Date            | 02/11/2004  |
|       |   |    |   | First Named Inventor   | Lee         |
|       |   |    |   | Art Unit               | 1641        |
|       |   |    |   | Examiner Name          | Unknown     |
|       |   |    |   | Attorney Docket Number | 703538.4033 |

|    |  |
|----|--|
| BC | BERTSCH et al., "3D Micromixers – downscaling large scale industrial static mixers" Proceedings of the IEEE 14th annual international conference on microelectro mechanical systems, MEMS 2001, Interlaken, Switzerland January 21 – 25, 2001, pages 507-510 |
| BD | THORSEN, et al., "Dynamic Pattern Formation in a Vesicle-Generating Microfluidic Device", The American Physical Society (4/30/2001), Volume 86, No. 18, pp. 4163-4166  |
| BE | TAN et al., "Microfluidic Liposome Generation from Monodisperse Droplet Emulsion—Towards the Realization of Artificial Cells, 2003 Summer Bioengineering Conference, June 25-29, Key Biscayne, Florida, two pages  |

|                       |                  |                    |  |
|-----------------------|------------------|--------------------|--|
| Examiner<br>Signature | DOCSOC1:154041.1 | Date<br>Considered |  |
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This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 USC 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you are required to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS, SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450